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R E M A R K S

The Office Action issued August 23, 2006 has been received and its contents have been carefully considered.

Applicant confirms the provisional election of Invention I (claims 1-10) which was made without traverse. Claims directed to the non-elected Invention II (claims 11-21) have been canceled; however, applicant reserves the right to file a divisional application to continue the prosecution of these non-elected claims.

The indication that claims 3 and 4 would be allowable if rewritten in independent form is noted with appreciation. Claim 3 has been rewritten in independent form as a new claim 24. A new claim 25, identical to the original claim 4 but dependent from claim 24, has also been added.

Claim 1 has been amended to recite that "an end portion of the light guide is hollow, defining an inner space." The resonator is recited as being "at least partly mounted in said

space... and ...fixed there mechanically and coupled optically to the light guide."

Claim 2 has been amended to change "the cutout" to "said space" and claim 6 has been amended to recite that the resonator is held in the light guide by "at least one of self-clamping forces and adhesive forces..." Such adhesive forces are disclosed on page 3, line 18, of the specification.

A new claim 22 has been added, depending from claim 1, to recite that "more than half of said resonator is received in said space" (as is evident from each of the figures of this application).

New claim 23 has been added, depending from claim 6, to recite that "said distance is larger than half of a diameter of said resonator" (as is also illustrated in each of the figures).

Finally, a new claim 26 has been added which combines the features of applicant's claim 5 with that of claim 1.

Claims 1, 2 and 5-10, as originally presented, have been rejected under 35 USC §103(a) as being unpatentable over the European Patent Application No. 0 251 496 to Jones in view of the U.S. Patent Publication No. 2003/0012504 to Iltchenko. It is believed that applicant's claim 1, as amended, as well as applicant's new claim 26, which is equivalent to applicant's

original claim 5, distinguish patentably over Jones and Iltchenko for the reasons given below.

Claim 1 now recites that "an end portion of the light guide is hollow, defining an inner space."

While Jones does show a temperature sensor with a light source, radiation modulation means and means for observation of the light decoupled out of the resonator, there is no teaching that the resonator could be mounted within a space formed within a hollow end of a light guide to provide secure mechanical attachment.

Iltchenko discloses a light fiber coupling system for a microsphere resonator to form an optical system with a high "Q" factor. This optical system is used as a building block for fiber optic systems and is definitely not a measurement device. Furthermore, the problem of mechanically mounting a microsphere at the end of a light fiber is not addressed. Finally, Iltchenko always uses two fibers which are cut an oblique angle.

In one embodiment, there is a rectangular groove arranged at the front end of the fiber. The width of the groove is much less than the diameter of the microsphere, as is indicated in numbered paragraph 0058, lines 8-11. The end portion of the light fiber is not "hollow", forming an "inner space" in the fiber.

Therefore, even if a person skilled in the art were to combine the teaching of Jones, which discloses a temperature sensor using a ruby sphere as a radiation modulation device, with the teaching of Iltchenko, which discloses optical fibers coupled to a microsphere resonator to achieve a high-Q optical system, the combination would not result in the present invention as claimed. Neither one of the two references are concerned with the mechanical coupling of a microparticle, and neither reference shows a light guide having an end portion which is hollow, defining an inner space, and a resonator mounted in this space and fixed there mechanically.

New claim 26 (original claim 5 rewritten in independent form) recites that only one light guide is present and the light propagates from the light source to the resonator in a first direction and then back from the resonator in a second, opposite direction.

In the configuration proposed by Iltchenko, it is not possible to have light from the fiber coupled into the microparticle, and at the same time have light decoupled from the microparticle and reenter the fiber to travel in the opposite direction. The single angle cut fiber shown in Fig. 10 of Iltchenko only serves to couple propagating light into the resonator, not out of the resonator. All of the complete

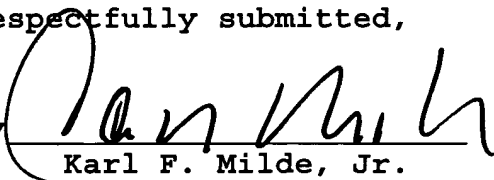
embodiments illustrated in this reference show two fibers arranged near the microparticle. Therefore, Iltchenko does not render it obvious to couple light into, as well as decouple light out of, the resonator with only one fiber.

In summary, the remaining independent claims of this application are claims 1, 24 and 26. Independent claims 1 and 26 are allowable over the cited prior art for the reasons given above. Claim 24, which is the same as applicant's original claim 3, rewritten in independent form, has been indicated as being allowable over the cited art.

Accordingly, this application is believed to be in condition for immediate allowance. A formal Notice of Allowance is therefore respectfully solicited.

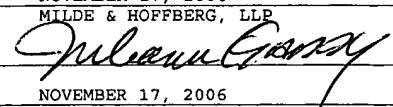
Respectfully submitted,

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MILDE & HOFFBERG, LLP
By 
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